

14 September 1966

MEMORANDUM FOR THE RECORD

SUBJECT: Report of SWIP to USIB on 9 September 1966.

1. Attached is a diagram showing the seating arrangement for the special meeting of USIB with SWIP on 9 September 1966.

2. Each member of SWIP with the exception of General Betts, who was absent, reported on a specific aspect of their findings. The comments of the SWIP members are given below in the order in which the members spoke.

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[REDACTED]

The panel was impressed with continued and accelerating massive effort to reverse the relative strategic posture of the US and USSR. In this connection the panel noted the following points:

a. Lowest and declining level of activity in the US on strategic weapon development, production, and deployment in recent years coincides with highest and rising level in Soviet ballistic weapon program. At present rate, the USSR will reach parity with the US by about 1969, and there is no confidence that the Soviets will stop there.

b. The Soviet Union is carrying out a massive anti-missile, anti-aircraft, and anti-satellite program. Its scope and magnitude far exceeds the US effort.

c. Scope and size of Soviet R&D program is increasing; launch and range activity; nuclear testing and production; submarine-launched cruise missiles; atmospheric flight vehicles; space surveillance; deorbiting techniques; solid propellant technology; high-energy propellant facilities; supersonic transport; electronic and radar technology; massive training program for scientists, engineers, electronic technicians, etc.

Particular attention was drawn to the following:

The Soviet [REDACTED]

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Question exists only as to the circumstances and timing under which they might choose to use their capability. In these circumstances, considering the [REDACTED] the panel could see no adequate US effort to insure continued US coverage, if the Soviets at their [REDACTED] of the present design.

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The following dilemma was noted:

a. The threshold for positive US response of the weapon system level in response to intelligence assessment is high.

b. Individual intelligence analysts limit their conclusions to those that can be deduced from specific hard evidence, which by definition is limited to past Soviet action.

c. Development lead times in the US are very long at the weapons system level.

Thus, we systematically suffer from a built in intelligence/decision/lead time gap.

While having no easy answer to this dilemma and having criticism of the policy to insist that analysts stick to hard evidence, the panel questioned that full utilization is made at policy levels of rational extrapolation from existing hard evidence.

4. Lt. Gen. Waymond Davis

Based on past and continuous observations the panel believed that the following objectives of the USSR are now obvious:

a. To obtain strategic offensive superiority over the US, the increase in ICBM deployment is now at a rate which will give the USSR parity with the US by about 1969. This force will exceed the throw weight of our ICBM force before parity in numbers is reached

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b. There is good evidence that the USSR intends to maintain a mixed force of ballistic missiles and manned bombers. Despite the increase in ICBM deployment, two models of long range bombers are still in production at a rate sufficient to offset attrition. [REDACTED]

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TCS No. 8133/66

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c. There has been no new information which would lead to concluding that the rail mobile ICBM is not still a distinct possibility.

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5. 

There is no doubt that the Soviets have installed and are installing at an increasing rate an ABM system which poses a substantial threat to the US deterrent posture. It is possible that the Soviet tests in the early 1960's provided important data on the effects of high altitude nuclear bursts on the vulnerability of missiles which may be unknown to us but which gave enough confidence to the Soviets to lead to their design and deployment of the present ABM system.

The Tallinn ABM system is apparently an area defense system while the larger more expensive Galosh system with its higher performance seems to be a point defense system at the present time as deployed around Moscow.

While there has been discussion as to the anti-aircraft role of the Tallinn system, it is agreed to have a basic ABM capability.

Continuing efforts must be made to obtain data on both systems but it is clearly evident that the over-riding consideration is that both have been deployed as ABM's whether the Tallinn system has anti-aircraft capability or not.

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We lack completely any knowledge on how the tracking capability of the Henhouse radars can be fed back to either the Galosh or Tallinn sites particularly when the whole system might be under attack.

A crucial question exists and, by nature of the situation, is likely to continue to exist, as to whether our present penetration aids programs can actually cope with the Soviet ABM system both from a technical and timing point of view.

TCS 8133/66

6. Rear Adm. Levering Smith

An increasing number of Soviet missile submarines are being operated much farther from their bases, indicating growing confidence in their ability to conduct extended patrols, but they have not yet operated in numbers within range of the US.

The noise characteristics of Soviet missile submarines is a very considerable disadvantage to them, [REDACTED]

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[REDACTED] When the Soviets obtain a suitable navigation system, backfitting would eliminate much of the disadvantages of their noise characteristics. Evidence is not yet available as to progress in their ability to design and construct quiet submarines although it does appear that elimination of low frequency noise by backfit is highly unlikely. It is noted, however, that the submarine construction shipyards are filled and quieter nuclear submarines may soon appear in significant numbers.

Submarines still appear to be procured primarily for their anti-shipping capabilities. The potential destructive capacity of their total submarine missile inventory is so great that a continuing search should be conducted for methods by which they could mount a massive attack using this inventory.

All AMM sites which have so far been observed appear to be vulnerable by Polaris missiles from selected launch areas. Since this vulnerability would be a surprising oversight on the part of the Soviets, an intensive search for appropriate long range acquisition radars should be instituted.

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[REDACTED]

It is probable that the Soviet nuclear tests in 1961 and 1962 provided important experimental normalizations concerning the effects of high altitude nuclear bursts. These seem to have played an important role in their choice of design and deployment of their current AICBM systems. It is possible that these tests also aided the design and evaluation of their strategic missile systems.

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[REDACTED]

a. Precise: The Soviets apparently contemplate the employment of an extensive (in numbers and mix) strategic threat. The deployment probable encompasses the following modes:

- (1) Orbital?
- (2) Ballistic
- (3) Suppressed ballistic
- (4) Low Level

b. Resources and Technology

- (1) Test facilities (ranges) are extensive, probably exceeding the US.
- (2) Production facilities are adequate for missile requirements, bombers, and submarine/surface ships.
- (3) Technical preparedness is extensive in material and fabrication technology (refractory materials, titanium, etc.)

c. Conclusions

- (1) Deployment rate of ICBM's increases exponentially, matching and probably surpassing our capabilities in 1968.
- (2) Evidence of extension of the line of present bombers, thus enabling the Soviets to deliver a mixed threat, possibly including low level attack and delivery of SCRAM type missiles.
- (3) The submarine as a launching platform, probably confined to a cruise type missile and a ballistic missile, is deployed primarily against naval task forces.
- (4) Strong evidence of both a point and area defense ABM in the deployment stage.

d. Recommendations

- (1) Secure data related to orientation of Soviet advance technology programs.
- (2) Priority assignment for protection/backup of reconnaissance capability.
- (3) Track the Soviet ASW program.
- (4) Secure data on progress of Soviet submarine programs.
 - (a) Noise characteristics.
 - (b) Navigation system.
 - (c) Gyro compass.

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(5) Reanalysis the types of Soviet land base mobile ICBM's.

25X1B5a e. Propulsion Technology

(1) Liquid propellants



(2) Solid propellants



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The introduction of ABM's would suggest the extension of solid propellant technology by impressive improvements of the physical characteristics of the propellants, because of the high acceleration requirements, and an increase in burning rate by a factor of 3 or 4.

(3) Nuclear rocket propulsion

(a) Inert components

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(b) Advanced concepts

Advanced concepts such as sector control, exact thrust termination, thrust modulation and stop/start capabilities seem to be familiar and developed by the Soviets.

f. China

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[In closing [redacted] offered the bromide that one robin does not make a spring but that one lark can be responsible for a fall.]

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9. [redacted]

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b. Analysts are concentrating on what they can see and speculating less on new weapon systems.

c. Analysts are not making comparisons between the efforts of the USSR and the US. Analysts are not knowledgeable on US weapon systems.

d. The Soviet desire to have strategic superiority over the US, and we can look forward to being number 2.

e. What are the Soviets doing with the road mobile ICBM?

f. Two ABM systems deployed at Moscow because of its importance. The Tallinn ABM system may have an equivalent anti-aircraft capability.

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